In the Claims:

The following listing of claims replaces all preceding lists.

1. (currently amended) A double-screw compressor for supplying gas to a gas consumer and comprising two interacting rotors for compressing the gas and a toothed gearing, which toothed gearing comprises:

a. a housing with two opposite end walls which are made of a first material,

b. two parallel gearwheel shafts, which are each connected to one of the rotors and mounted rotatably in the opposite end walls with a nominal center distance,

c. two interacting gearwheels which are fixed on a respective gearwheel shaft and made of a second material, each gearwheel having involute teeth corresponding to one another and designed so as, when engagement between teeth on their respective wheels takes place, to form a nominal backlash between the teeth interacting during the engagement[[,]] when the gearwheel shafts are located at the nominal center distance from one another, and further having a nominal pressure angle,

d. the first and second materials having different thermal expansion coefficients, characterized in that each of the gearwheels ~~is designed with one and~~ comprises the same nominal pressure angle which is smaller than 15° in order to minimize the deviation of the actual backlash from the nominal backlash when a center distance deviates from the nominal center distance as a consequence of a change in temperature of one of the parts included in the screw compressor.

2. (original) The double-screw compressor as claimed in claim 1, in which the two gearwheels are designed with a nominal pressure angle which lies in the range 8° to 15°.

3. (previously presented) The double-screw compressor as claimed in claim 1, in which the two gearwheels are designed with the nominal pressure angle of around 10°.

4. (previously presented) The double screw compressor as claimed in claim 1, in which the first material is aluminum and the second material is steel.

5. (previously presented) The double-screw compressor as claimed in claim 1, in which the nominal center distance is slightly greater than a normal center distance for toothed gearings, Anorm, which is calculated according to the formula:

$$\text{Anorm}\cancel{,} = ((m_1 \bullet z_1) / 2\cos\beta_1)) \quad + \quad ((m_2 \bullet z_2 / 2\cos\beta_2))$$

where m is the module, z is the number of teeth and β is the helix angle and where the index numbers $_1$ and $_2$ represent one and the other gearwheel respectively.

6. (previously presented) The double-screw compressor as claimed in claim 5, in which the nominal center distance lies within the range $1.0 \bullet$ Anorm to $1.0016 \bullet$ Anorm.

7. (previously presented) The double-screw compressor as claimed in claim 5, in which $m_1=m_2=1$, $z_1=30$, $z_2=60$, $d_1=33.480$ mm, $d_2=66.960$ mm, and $\beta_1=\beta_2=26.355°$, where m is the module, z is the number of teeth, d is the reference diameter and β is the helix angle and where the index numbers $_1$ and $_2$ represent one and the other gearwheel respectively.

8. (currently amended) A method of, in a double-screw compressor for supplying gas to a gas consumer reducing the effect of temperature variations of parts in the double-screw compressor on the functioning of the double-screw compressor, which double-screw compressor comprises two interacting rotors for compressing the gas and a toothed gearing, where:

i. the toothed gearing is designed with:

(1) a housing with two opposite end walls which are made of a first material,

(2) two parallel gearwheel shafts, which are each connected to one of the rotors and mounted rotatably in the opposite end walls with a nominal center distance,

(3) two interacting gearwheels which are fixed on a respective gearwheel shaft and made of a second material, each gearwheel having involute teeth corresponding to one another designed so as, when engagement between teeth on their respective wheels takes place, to form a nominal backlash between the teeth interacting during the engagement[[,]] when the

gearwheel shafts are located at the nominal center distance from one another, and further having a nominal pressure angle,

ii. the first and second materials are selected so that they have different thermal expansion coefficients, characterized in that

iii. the nominal pressure angle of each of the gearwheels is ~~adapted~~ identical and within the same range 0° to 15° in order to minimize the deviation of the actual backlash from the nominal backlash when a center distance deviates from the nominal center distance as a consequence of a change in temperature of one of the parts included in the screw compressor.

9. (canceled)

10. (previously presented) The method as claimed in claim 8, wherein the first material is aluminum and the second material is steel.

11. (previously presented) The double-screw compressor as claimed in claim~~s~~ 8, wherein the nominal center distance is slightly greater than a normal center distance for toothed gearings, Anorm, which is calculated according to the formula:

$$\text{Anorm} = ((m_1 \bullet z_1) / 2\cos\beta_1)) + ((m_2 \bullet z_2) / 2\cos\beta_2))$$

where m is the module, z is the number of teeth and β is the helix angle and where the index numbers $_1$ and $_2$ represent one and the other gearwheel respectively.

12. (previously presented) The method as claimed in claim 11, the nominal center distance being selected within the range 1.0 • Anorm to 1.0016 • Anorm.

13. (previously presented) The double screw compressor as claimed in claim 1, wherein the gas is air.

14. (previously presented) The double screw compressor as claimed in claim 1, wherein the gas consumer is a fuel cell.

15. (previously presented) The double screw compressor as claimed in claim 1, wherein the gas consumer is a combustion engine.

16. (previously presented) The double screw compressor as claimed in claim 6, wherein the nominal center distance is equal to around 1.0014 • Anorm.

17. (previously presented) The method as claimed in claim 8, wherein the gas is air.

18. (previously presented) The method as claimed in claim 8, wherein the gas consumer is a fuel cell.

19. (previously presented) The method as claimed in claim 8, wherein the gas consumer is a combustion engine.

20. (currently amended) The method as claimed in claim [[9]] 8, wherein the range is selected to be around 10°.